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TITLE: Method for forming trench of semiconductor device

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APPLICATION-DATA:

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BASIC-ABSTRACT:

NOVELTY - A method for forming a trench of a semiconductor device is provided to prevent the damage of a trench corner by forming a rounded trench corner using a two-step etching process.

DETAILED DESCRIPTION - After sequentially forming a pad oxide layer(20) and a nitride layer(30) on a semiconductor substrate(10),

the first photoresist layer pattern having a wider width than that of an aiming trench, is formed on the resultant structure. The semiconductor substrate(10) is then etched to the depth of 200-300 angstrom by the first etching process. After removing the first photoresist layer pattern, the second photoresist layer pattern having a narrower width than that of the first photoresist layer pattern, is formed on the resultant structure. Then, a trench(T) having a rounded corner is formed in the semiconductor substrate(10) by simultaneously carrying out an anisotropic and isotropic etching in the semiconductor substrate to the aiming depth using the second photoresist layer pattern as a mask. After removing the second photoresist layer pattern, a liner oxide layer(60) is formed on the resultant structure.

CHOSEN-DRAWING: Dwg.1/10

TITLE-TERMS: METHOD FORMING TRENCH SEMICONDUCTOR DEVICE

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